



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/686,933

10/16/2003

John Gavin MacDonald

KCX-665 (19232)

4589

22827 7590 09/28/2009

DORITY & MANNING, P.A.  
POST OFFICE BOX 1449  
GREENVILLE, SC 29602-1449

EXAMINER

SILVERMAN, ERIC E

ART UNIT

PAPER NUMBER

1618

MAIL DATE

DELIVERY MODE

09/28/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

---

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/686,933  
Filing Date: October 16, 2003  
Appellant(s): MACDONALD ET AL.

---

Ryan Harris  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 9-16-2009 appealing from the Office action mailed 12-15-2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The "Honda" reference is not EP 1 186 854; the correct number of the Honda reference is EP 1 188 854. Note that this typographical error also appears on the final rejection. The Honda reference was submitted with an IDS on 11/18/2004.

**GROUND OF REJECTION NOT ON REVIEW**

The following grounds of rejection have not been withdrawn by the examiner, but they are not under review on appeal because they have not been presented for review in the appellant's brief. Claims 31, 38, and 43-47 are provisionally rejected on the

Art Unit: 1618

grounds of non-statutory double patenting, and claims 31, 43, and 53 are rejected on the grounds of non-statutory double patenting.

#### **(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

#### **(8) Evidence Relied Upon**

US 2002/0006425	Takao	1-2002
5,762,643	Ray	6-1998
EP 1 188 854	Honda	3-2002
WO 03/025067	Beaverson	9-2002

#### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 31, 35-43, 47, 48, 50, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 188 854 to Honda in view of US 2002/0006425 to Takao.

Honda teaches fibers, such as string or yarn-form fibers. Para. 0033. The fibers are impregnated with inert titanium. Para. 0053. The fibers are also coated with nanoparticles of titanium, and silicon oxide nanoparticles. Paragraphs 0015-0016. The purpose of the silica particles in Honda is odor-removal. The size of the nanoparticles is, for example, 7 nm. Para. 0054. The specific surface area is 100-300 square meters per gram. Para. 0015. For example, 150 square meters per gram is exemplified. Para. 0054. The entire fiber is dipped in a coating solution of nanoparticles, which completely coats the particles. Example 1. Because coating does not produce any observable

Art Unit: 1618

change in the size of the titanium particles in Example 1, the coating must have a thickness of less than 500 nm. Because the silicon oxide nanoparticles have a diameter of 7 nm, the coating cannot be thinner than 7 nm. Thus, the coating thickness must fall into the range of instant claim 42.

What is lacking in Honda is the particular silicon nanoparticles of instant claims.

Takaoa teaches the use of SNOWTEX-AK nanoparticles for removing odors. SNOWTEX-AK is a type of alumina coated silica that reads on the particles of the instant invention. Note that the instant specification at page 6 and Example 2 teach that SNOWTEX-AK is a particle of the invention.

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the invention to use SNOWTEX-AK of Takaoka as the odor absorber in Honda, either by combining SNOWTEX-AK particles with those of Honda or by replacing the particles of Honda with SNOWTEX-AK. Obviousness stems from the notion that it is obvious to combine materials recognized in the art as useful for the same purpose. The instant invention is no more than the result of adding an additional type of art-known odor absorbing particles to the substrate of Honda, which already uses odor absorbing particles. Obviousness also stems from the notion that it is obvious to substitute elements that are recognized in the art as performing the same function. Thus, it would be obvious to take Honda's odor-absorbing particles and replace them with the SNOWTEX-AK odor-absorbing particles of Takaoka.

Art Unit: 1618

Claims 31, 35-46, 18, and 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Takaoa, as applied to claims 31, 35-43, 47, 48, 50, and 53, and in further view of Beaverson.

What is lacking from Honda and Takaoa is:

1. The absorbent article having the components of claims 44 and 45. These
2. The paper web substrate of claim 51.
3. The nonwoven web substrate of claim 52.

Beaverton teaches that paper webs, nonwoven web substrates, and diapers, may all be made of fibers that have been treated with odor-removing nanoparticles. Col's 8, 9, claim 17.

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the invention to use the nanoparticle coated fibers of Honda and Takaoa to make the articles of Beaverson. Obviousness flows from the recognition that Honda/Takaoka systems are useful for the same purpose as those of Beaverton, namely, making articles that remove undesirable odors.

Claims 31, 35-43, 50, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Takaoa, as applied to claims 31, 35-43, 47, 48, 50, and 53, and in further view of Ray.

What is lacking in Honda and Takaoa is a facemask.

Ray teaches that absorbent articles having good odor removing abilities may be used to fabricate facemasks. Col. 5, lines 56-64, Figure 9, and descriptions of Figure 9.

Art Unit: 1618

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the invention to make facemasks from the articles of Honda and Takaoa. Obviousness stems from Ray's recognition that odor-removing articles, such as those of Honda/Takaoa, are useful for this purpose. The use of a material for its art recognized purpose is generally obvious.

#### **(10) Response to Argument**

Appellant's first argument is that Takaoa's particles are not "configured to adsorb" odors, as in the instant claims. According to Appellant, Takaoa and Honda's particles react with and destroy malodorous compounds, but are not "configured to adsorb" such compounds. This argument fails because the Takaoa particles are the same particles as the particles in the claims. Like the claimed particles, Takaoa's particles are alumina coated silica. Furthermore, Appellants' specification specifies that SNOWTEX-AK particles are a particle of the invention. And Appellants do not dispute that SNOWTEX-AK particles read on the claimed particles. In addition, Appellants' argument does not make good technical sense. The term "absorb" means "to associate with a surface." Before an odorous compound can be destroyed by reaction with a particle the odorous compound must associate with, or be adsorbed by, the particle. Appellants fail to recognize that adsorption and decomposition of malodorous substances are not mutually exclusive. Indeed, a particle that decomposes an odorous substance first adsorbs the odorous substance and then decomposes it.

Appellants' then argue that Takaoa does not teach that the SNOWTEX particles are useful in odor control. Contrary to Appellants' assertion, Takaoa teaches that the

Art Unit: 1618

invention is designed "for removing a low concentration of such harmful materials, in particular malodors in daily life." Para. 0002. Furthermore, Takaoa teaches applying SNOWTEX particles to surfaces in an admixture with photoreactive semiconductor particles for the purpose of odor removal. Example 15.

Solely for the sake of argument, even if Takaoa does not teach SNOWTEX particles as having odor control properties, Takaoa does teach applying SNOWTEX particles along with photoactive odor control particles on a surface. Thus, even if the Board believes Appellants' assertion that SNOWTEX is not taught to have odor-control properties, the obviousness rejection should still be affirmed because Takaoa teaches the use of SNOWTEX particles in conjunction with other odor-control particles. Thus, one of skill in the art would be following Takaoa's suggestion by mixing SNOWTEX particles and the odor-control particles of Honda. Alternatively, it would still be obvious to replace the particle system of Honda with the system of Takaoa, which contains SNOWTEX and other photocatalysts, because the Takaoa system serves the same purpose as the Honda system.

Appellants' next argue that Honda teaches away from incorporating Takaoa's particles because Honda teaches that adsorption is insufficient, but it is important to also decompose odorous substances. Appellants' reason that replacing the photocatalyst of Honda with SNOWTEX would eliminate the ability of Honda's article to decompose odorous substances. This argument fails for two reasons. First, the Examiner does not agree with Appellants' characterization of Takaoa. For example, at paragraph 0119, Takaoa states that "harmful materials adsorbed on the carrier without

Art Unit: 1618

light irradiation and released at the same time, **decomposed** by the photoreactive semiconductor supported on the carrier" (emphasis added). Thus, like Honda, Takaoa decomposes malodorous compounds. Takaoa teaches SNOWTEX as one particle that can accomplish this goal. Second, even if the artisan would not replace Honda's particles with SNOWTEX, the argument does not address the alternative rationale for obviousness: that it would be obvious to combine SNOWTEX particles with the particles of Honda. Takaoa teaches the use of SNOWTEX in combination with photocatalyst particles to decompose harmful or malodorous substances. Example 15. Thus, even if SNOWTEX does not decompose malodorous substances, it would nonetheless be obvious to combine SNOWTEX with Honda's photocatalysts which do decompose malodorous substances. As discussed above, this combination is motivated by Takaoa who specifically teaches the use of SNOWTEX particles in combination with photocatalysts to decompose harmful or malodorous substances.

Appellants then argue that the Examiner used improper hindsight in making the rejections. This argument is unimpressive when, as here, Appellants' are unable to point to anything in the rejection that was gleaned from Appellants' disclosure. In fact, all of the facts used in this rejection were known in the prior art. There is nothing in the rejection that is not found in the prior art, and Appellant has not even attempted to argue otherwise. These rejections require no improper hindsight reasoning.

Appellants separately argue the rejection including Beaverson by noting that Beaverson does not "disclose any rationale to one skilled in the art to incorporate any type of odor control into a diaper." Ap.Br. at 10. In response, while Appellants' may

Art Unit: 1618

smell flowers everywhere, the benefits of adding odor control elements to a diaper are readily apparent even to a layperson. Anyone who has ever changed a diaper or even been in the same room with an infant whose diaper is dirty immediately understands that odor control elements in the diaper would be beneficial. This would be true even without the Beaverson reference. Nonetheless, Appellants' argument fails to recognize that the materials in Beaverson are used "as a barrier material in a disposable diaper, wherein the barrier material preferably is applied as a coating or film onto the outer or backing layer of the diaper." Beaverson at claim 20. Thus, contrary to Appellants' allegations, Beaverson does teach incorporation of odor control elements into diapers.

Appellants do not separately argue the rejections involving the Ray reference.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Eric E Silverman/

Primary Examiner, Art Unit 1618

Conferees:

/Michael G. Hartley/

Supervisory Patent Examiner, Art Unit 1618

/Dave Nguyen/

David Nguyen